National Library of Medicine Pilot Activities to Enhance Biomedical Careers

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Women in Biomedical Research: Best Practices for Career Success

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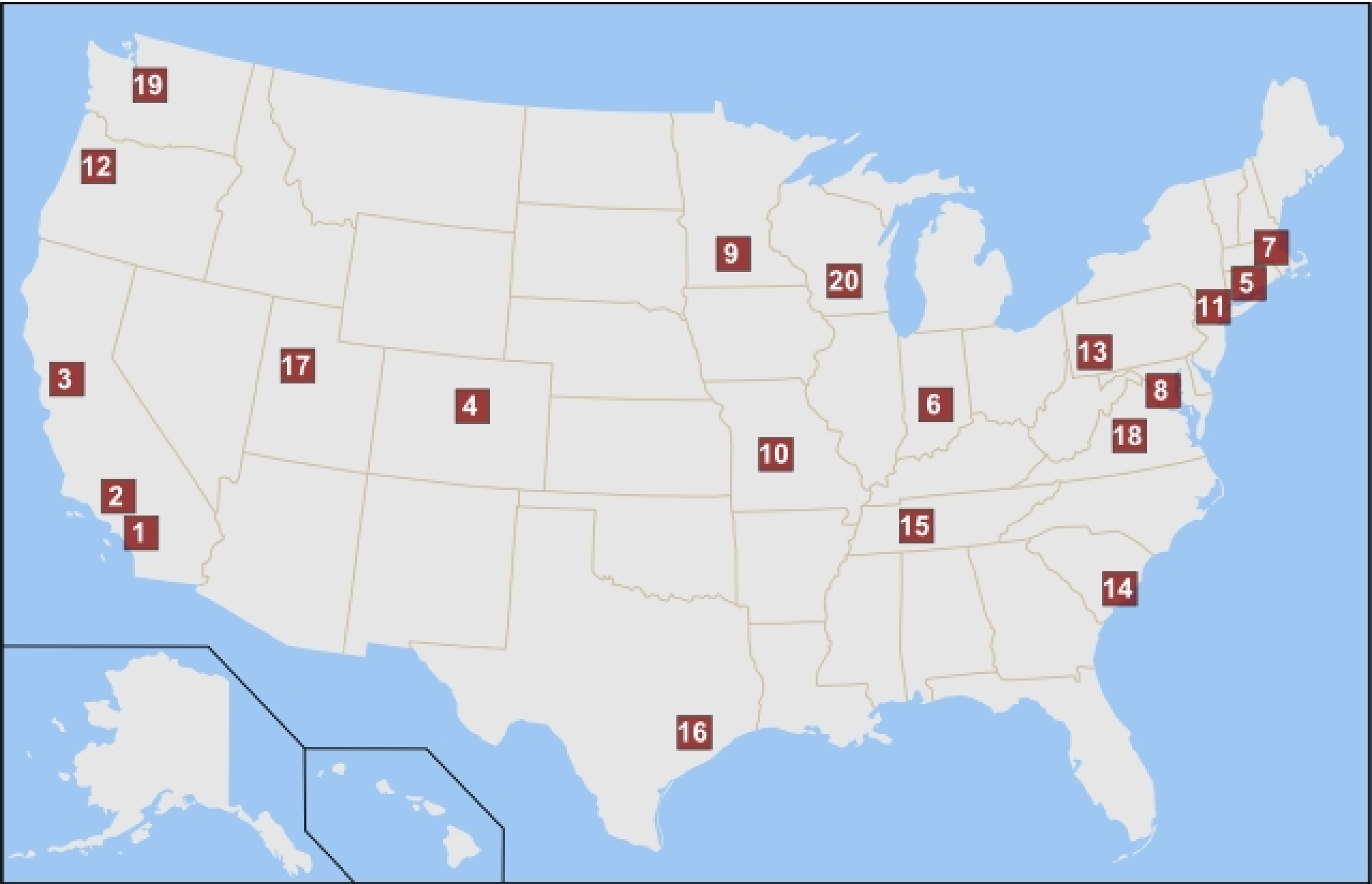
Biomedical Informatics

- A scientific field at the intersection of computer/information sciences and domains of biomedicine
  - Clinical/health care informatics
  - Bioinformatics/computational biology
  - Public health informatics
  - Clinical translational informatics
  - Specialized, e.g. imaging informatics

NLM Informatics Training

- **Pioneering** – first research training for biomedical informatics funded by federal agencies
- **Influential** – graduates fill important roles in academic settings, government and private industry

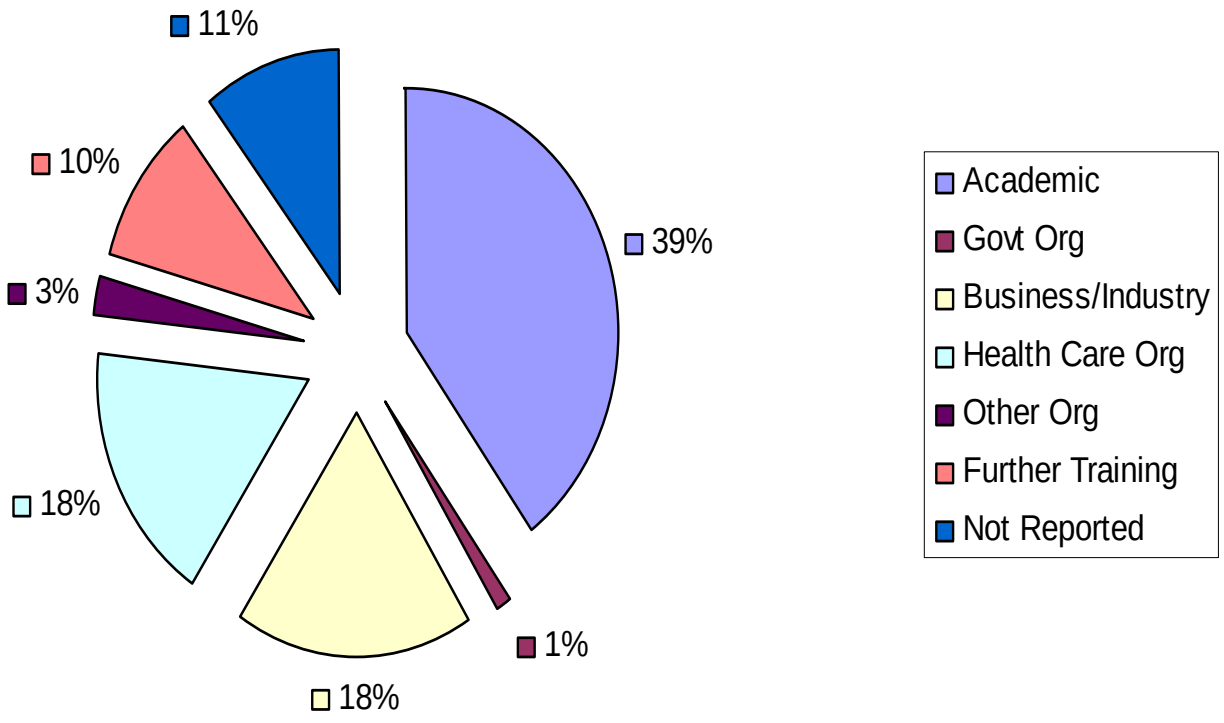
University Biomedical Informatics Research Training Programs Supported by NLM



Snapshot of NLM informatics trainees - 2006

- 232 trainees: 37% female, 63% male
- 69% White, 21% Asian, 10% African-American; 13% unreported
- At entry into NLM program, 39 % had MD or MD/PhD, 20% had PhD or other Doctorate
- Degree-awarding departments of informatics trainees obtaining PhD in 2006
  - Health Sciences & Nursing
  - Computer/Information Sciences
  - Genetics & Biological Sciences
  - Physical Chemistry/Physics
  - Communications/Biostatics

Employment Sector of NLM Trainees, 1996-2005 (n=507)



Typical Core Curriculum for Informatics

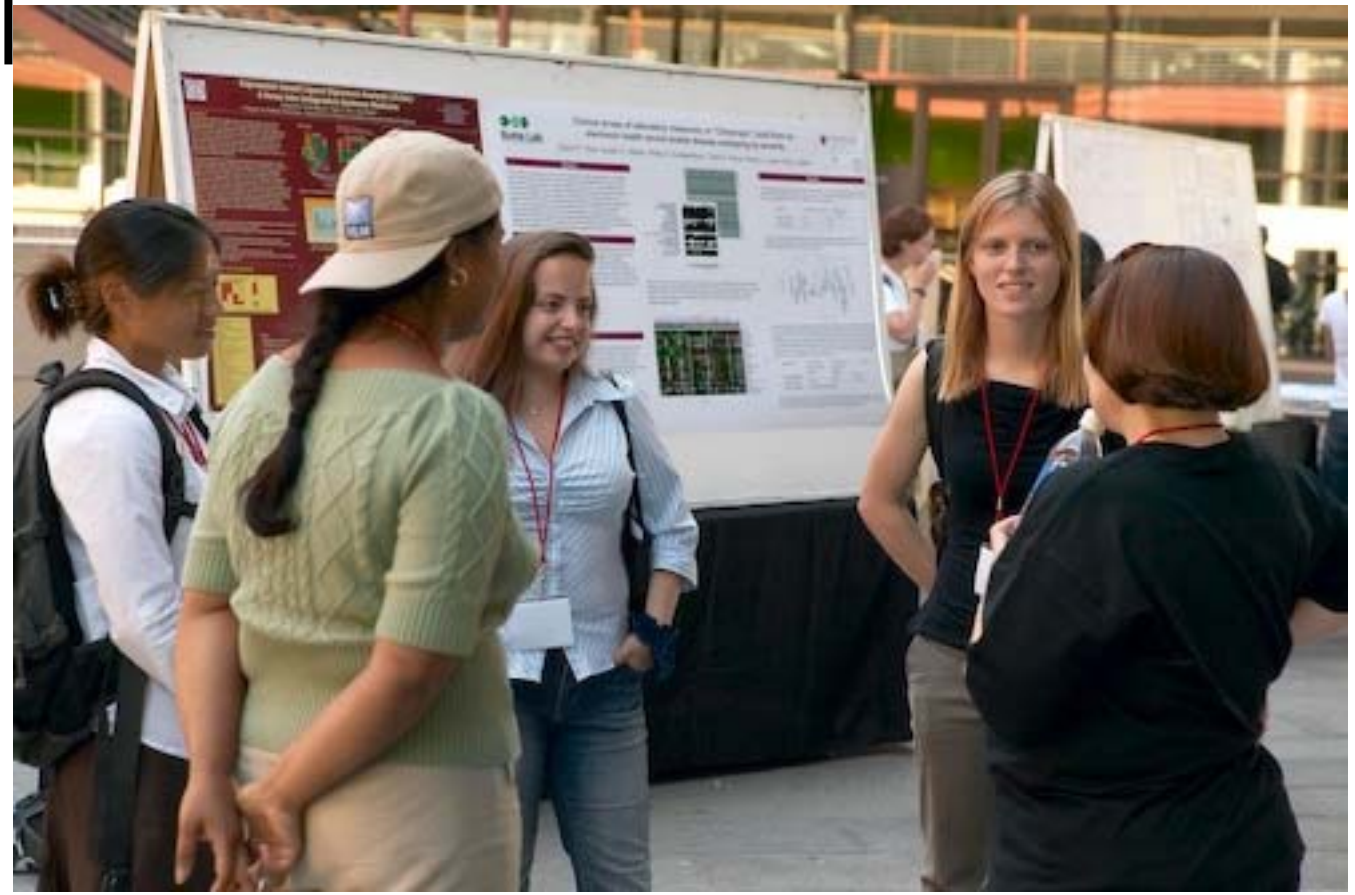
- Introductory course in informatics principles and concepts
- Courses in techniques of computer science, engineering, and other information fields
- Courses in quantitative methods
- Electives relevant to informatics offered by all programs (e.g. AI, Organizational Behavior; Epidemiology)
- Domain science education (e.g., medicine, biology, public health, mathematics, chemistry)

NLM Pilots for Caregiver Support - 2007

- Birth or Adoption Leave:
  - Extended unpaid leave for birth/adoption (up to 60 days). This extends the existing allowance of 30 days.
- Feedback from programs: 2 or 3 could have used it in the past 5 years
- Implemented July 2007

Mini survey: Extended unpaid leave

- Would require a special exemption from university president
- Need physician verification
- Must use paid sick leave and vacation first
- Grad students have no leave benefits and must be enrolled to receive a stipend
- Of 10 respondents, 3 felt they might have 1 trainee per year who would request this



NLM Pilots for Caregiver Support

- Caregiver Leave:
  - Extended paid leave to care for child or sick family member (half pay, 30 days)
- Rules of the institution's graduate program apply
- Implemented July 2007

Mini Survey: Extended paid leave

- University policies differ
  - some don’t allow it
  - Some have no policy
  - Some require special request
- Some administrators could not determine what the local policy is
- Some programs have non-NLM trainees who could not receive the benefit

NLM Pilots for Caregiver Support

- Childcare for Meeting Attendance:
  - Allow child care costs and related travel expenses to be charged to a training grant as part of regular training expenses
- In 2007, Program directors did not see a need
- Considered for July 2008 Training Conference; Legal issues require further research
- Possible implementation 2009

NLM Pilots for Caregiver Support - for 2009

- Primary Caregiver Technical Assistant (PCTA):
  - Provide technical assistance for a Postdoctoral trainee who is caring for a sick child or family member
  - Mid- to senior- level technician to be hired
- To be discussed at July 2008 Training Meeting for possible implementation in 2009

Lessons Learned

- Program directors & administrators must drive the program
  - Face-to-face meeting, list-serv discussion
- Funding source must be clear – is it supplemental or from existing funds
- Institutional restrictions could compromise the plan, creating haves & have-nots
- Some students don’t want special treatment